

# DP110

# Operation Manual



 carima

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# Equipment Operation Manual

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# Control Program Manual

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# Product Warranty

This product is warranted by Carima CO., LTD. Warranty repairs with or without charge are available for malfunctions during the warranty period if the customer has been operating the equipment under the normal conditions following the instructions given in this manual.

## Recommendation

This product is sensitive to surrounding environmental conditions. The best output is expected in stable conditions with 18°C ~ 26°C in temperature and 20% ~ 50% in humidity.

## Warranty

In case of repairs under the warranty, please contact the place of purchase or the manufacturer with model name and serial number with details of the problem.

## Items to be excluded from the warranty

- 1) Direct or indirect loss arising due to the malfunctioning of this product or its use.
- 2) Damage to the equipment due to dropping or impact in random transportation by the user of the equipment during the warranty period.
- 3) Malfunctions due to added devices not provided by the manufacturer.
- 4) Malfunctions due to the use of random consumables.
- 5) Damages done by natural disasters.
- 6) Malfunctions caused by maintenance unauthorized by the manufacturer.

Images in the manual may not be identical with the actual images.  
However, operational instructions are identical.

# Safety and Protection

This section describes the precautions to take in the operation and installation of the equipment.

The equipment operator and maintenance engineer should be well informed about this section since the warranty only applies in the case of proper operations. Therefore, user may be responsible for some issues of equipment malfunction arising from not adhering to the instruction.

**1)** Please follow the installation and setting instructions given in this manual to install and set the equipment.

If not, it may harm the equipment or the output will not be proper.

**2)** Please limit the operation of equipment to those who received the proper training in advance.

Operation by untrained personnel may cause serious damage to internal parts of the equipment.

**3)** Stop the operation of equipment immediately and turn the power off if there is strange noise or sound that is not normally heard.

Please contact the place of purchase or the manufacturer if the cause is not known or is not one of those mentioned in this manual.

**4)** Do not perform any unauthorized modification, disassemble or repair. If the equipment malfunctions in such cases, the repair may be charged even during the warranty period. Please contact the place of purchase or the manufacturer in case of any malfunctioning. If an attempt is made to modify without approval from the manufacturer, subsequent operation may cause serious damage to internal circuitry and devices.

**5)** Do not install this equipment in the following locations:

① where vibration or impact may occur ② where the floor is uneven or slopped ③ where there is direct sunlight ④ where air circulation is insufficient

**6)** Do not insert anything in the equipment while it is operational due to dangers of injury. Wait until the operation is completely terminated for any work on the equipment.

## 1. Stop

### 1) Temporary pause

Please press “temporary pause” button to pause the operation due to user mistake or to check the output error.

When the temporary pause button is pressed, the equipment pauses after the current job is completed which will be continued with the restart button. The temporary pause button may return the molding operation to the initial state.

### 2) Pausing current job

Please use it if output is abnormal or in case of serious damage to the equipment.

## 2. Restrictions

### 1) Power supply for this products is 100~240V and 50/60Hz.

This equipment will not operate other than the specified power supply.

### 2) Unnecessarily strong external light source may cause unintended curing due to the nature of the photo-curing resin. Please avoid direct and bright light or excessively strong lighting.

## 3. Others

### 1) The photo-curing resin reacts very sensitively to external environmental conditions including an impact. Please take extra cautions with environmental conditions such as humidity of 50%, fine dust or uncleanliness which may cause failed molding.

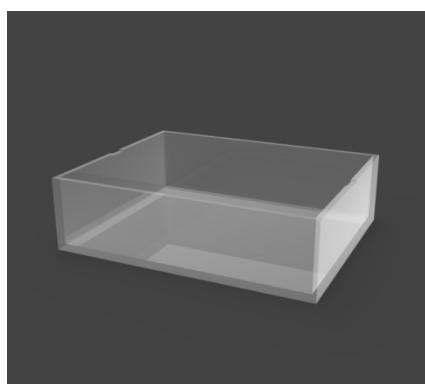
### 2) Some may be allergic to photo-curing resin. Please take caution not to come in contact your skin and immediately wash in case of contact.

# Product Information

## 1.Specification

Model Name	DP110
DLP Engine Resolution	1024 x 768
Production size (mm)	110 x 82.5 x 190
Thickness of layer(mm)	0.025 [0.025/0.05/0.075/0.1(4 stages)]
Precision in expression	100µm
Product dimension (mm)	380 x 255 x 743
Product weight (kg)	19
Power supply [rating]	100~240V, 50/60Hz, 2.5A, 260W
Used material	Like abs , acrylic
Control method	Controlled by a PC(user) with dedicated S/W for CARIMA
Environment conditions	18°C ~ 26°C (temp.) / 20% ~ 50% (humidity)

## 2.Consumables



[VAT]

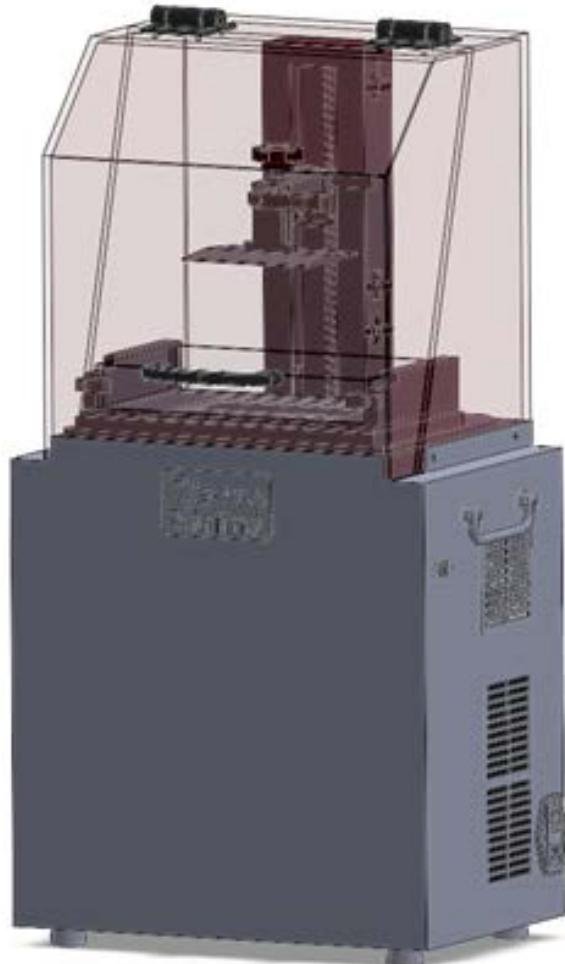


[RESIN]



[LAMP]

### 3.Characteristics



#### 1. Bottom up multilayer system by each plane unit

↳ An entire layer is cured at once and layers are added in stages for fast output

#### 2. Speedy output

↳ Fast output results due to multilayer system by each plane unit and up and down motor movement

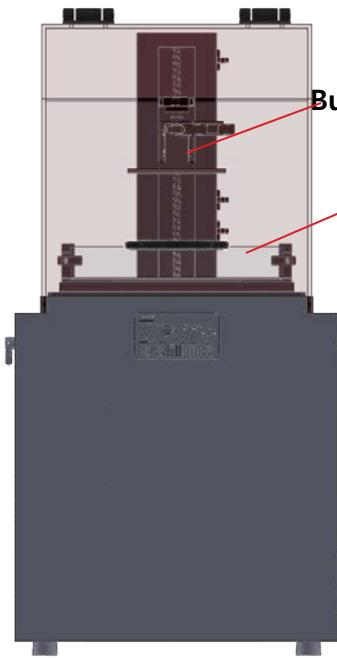
#### 3. Easy to use

↳ Simple configuration is easy for anybody to operate

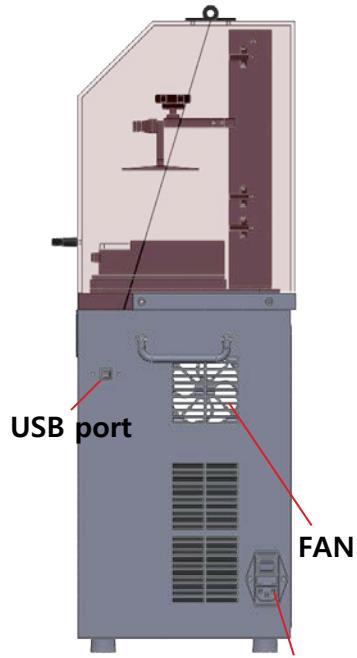
#### 4. Quiet operation

↳ There is no motor noise which is a plus to be used indoor.

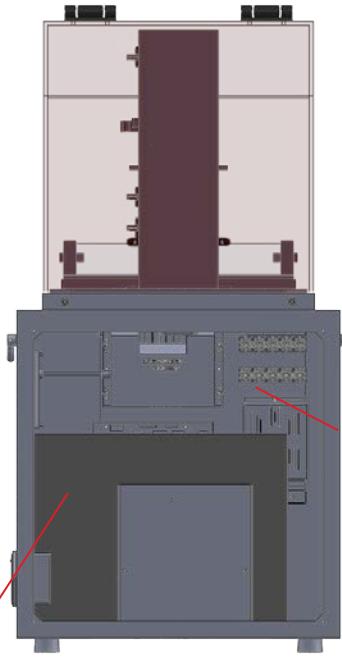
# Equipment Configuration Names



Build Tray  
VAT (Tray)



USB port  
FAN  
Power switch  
DLP engine



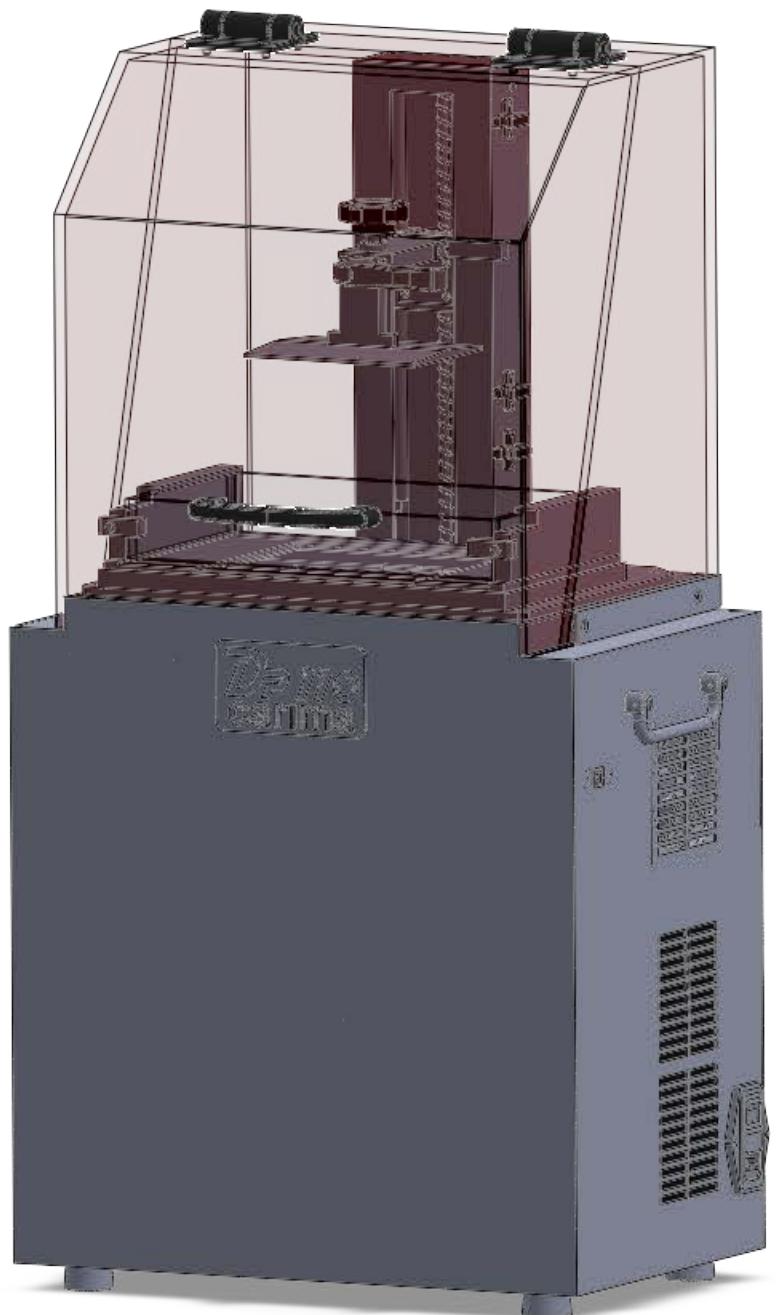
Control Board

[Front view]

[Right side view]

[Rear view]

# *Equipment Operation Manual*



# VAT Removal & Installation

1. In order to remove the VAT, pull the VAT stationery lever and turn as shown in the figure.

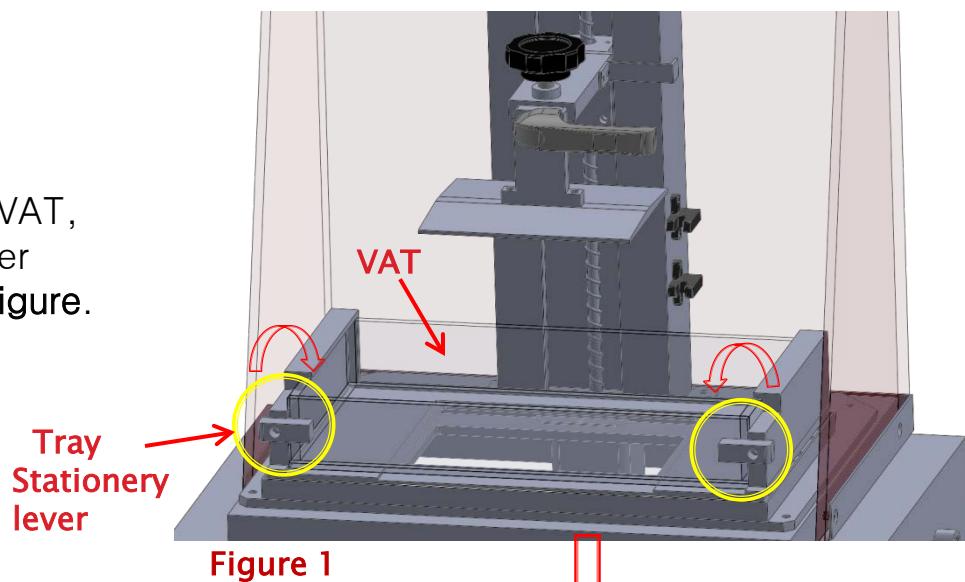


Figure 1

2. Remove the VAT in **Figure 2**.  
(Pay extra attention to be careful if there is Resin when removing.)

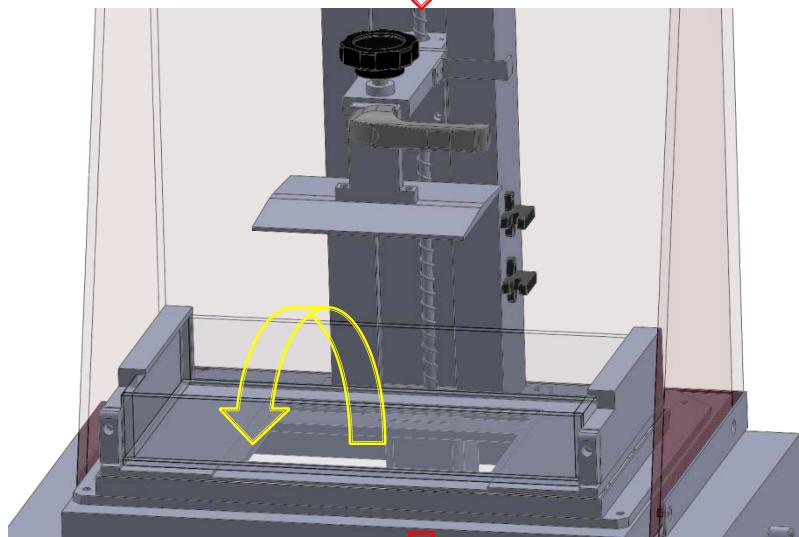


Figure 2

3. Operate it in the reverse order as shown in **Figure 3**.  
(Pay extra attention in installing if there is Resin.)

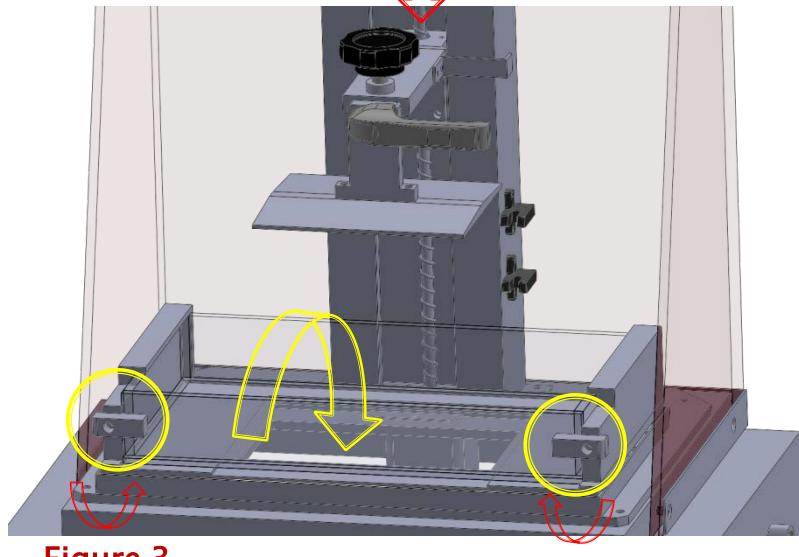
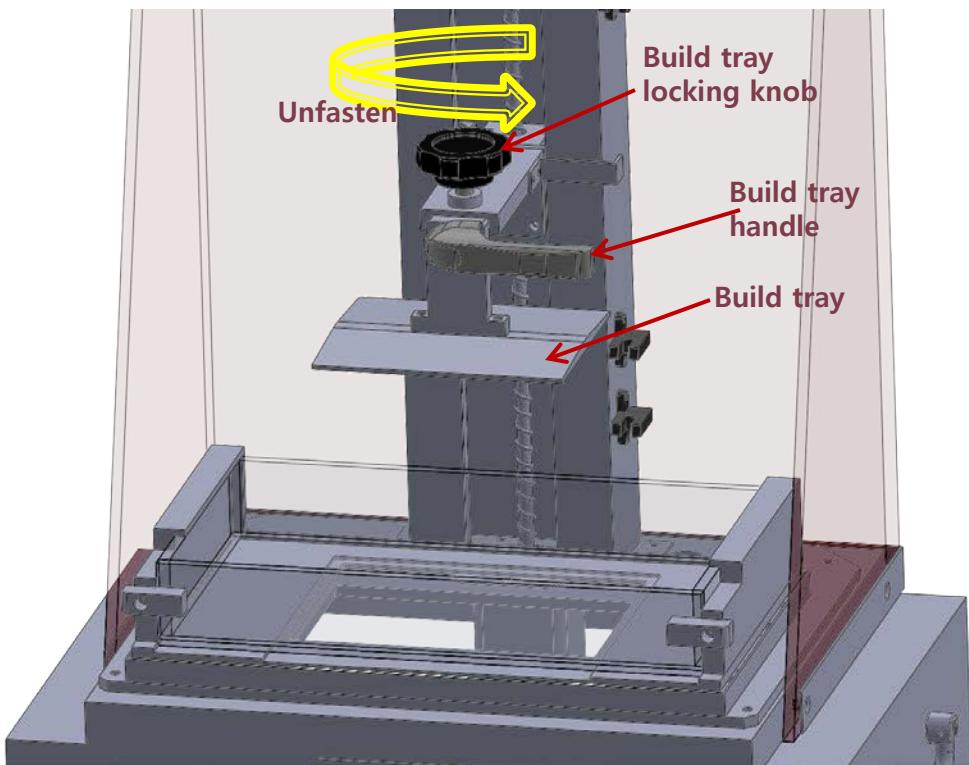


Figure 3

# Build Tray Removal & Installation



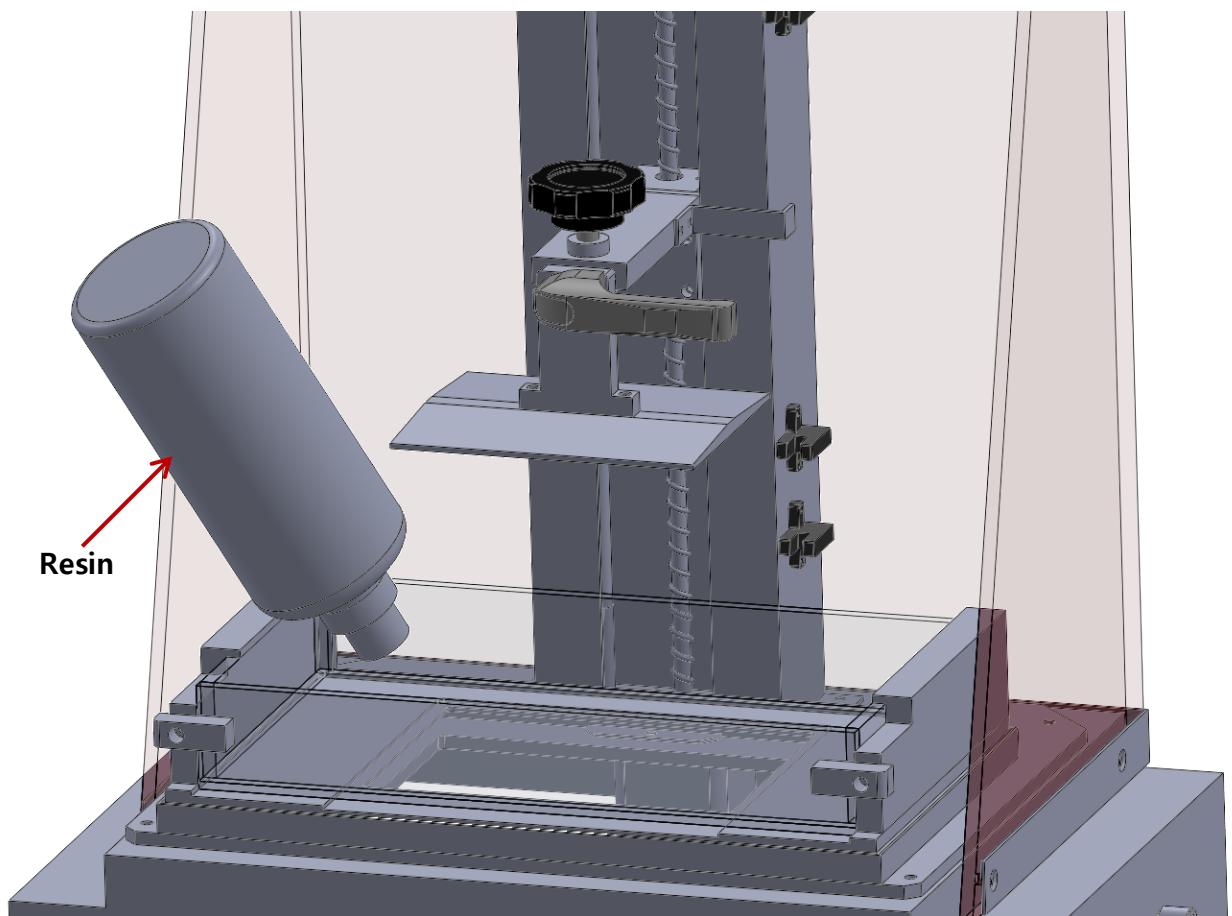
To remove the build tray when the output is completed, turn the build tray locking knob counterclockwise to loosen. Remove the build tray by holding the build tray handle. Installation is done in the reverse order.

## Notes

1. Wipe the resin immediately if resin on the build tray fell on the painted case or acrylic case. If it is not cleaned immediately, it may cause cracks in the acrylic case or peeled paint on the painted case.
2. Wipe any resin left on the build tray if the build tray will be left unused of an extended time since the resin left on the build tray may cure in time and cause undesired output later on.

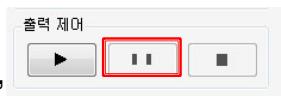
**Tip)** Please wear the supplied rubber gloves or use a clean paper to hold the bottom of output tray for clean environment.

# How to add Resin

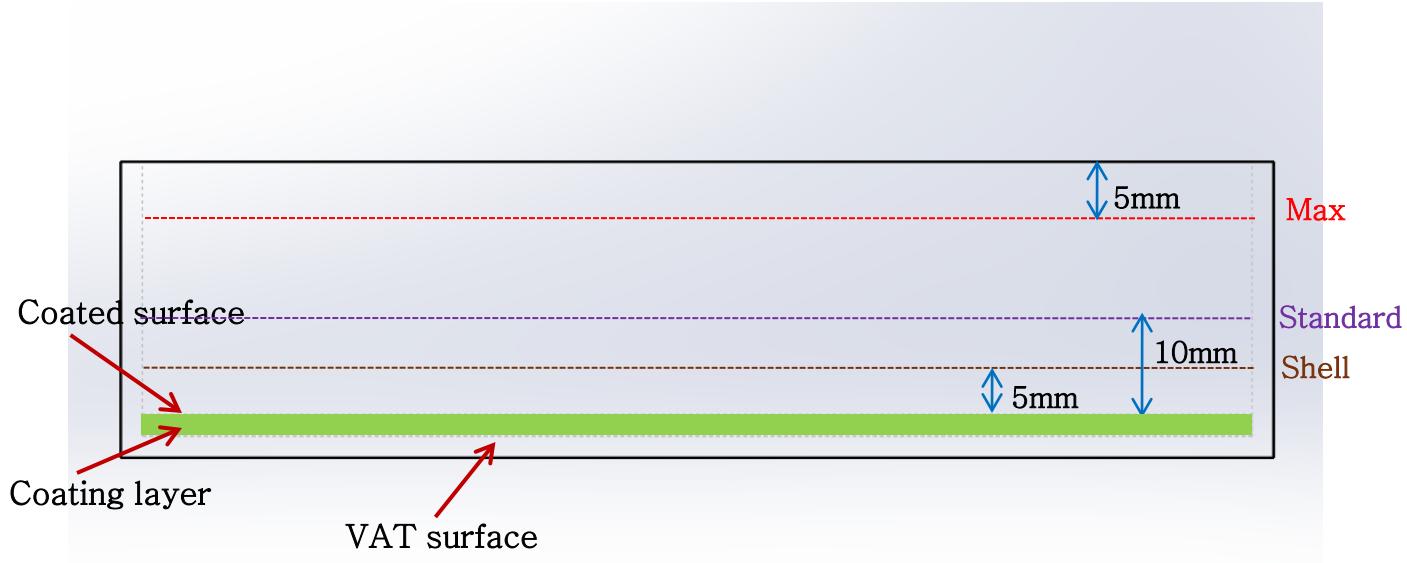


Add Resin as shown in the figure if resin is running low.

## Notes

When adding Resin,  push the “temporary pause” button and add Resin after completing the one layer job. Since resin in the VAT may foam while adding and the resin foam may cause undesirable output. Therefore, wait until the foaming disappears after adding resin before pushing the “start” button  prior to resuming the job.

## Amount of Resin to add



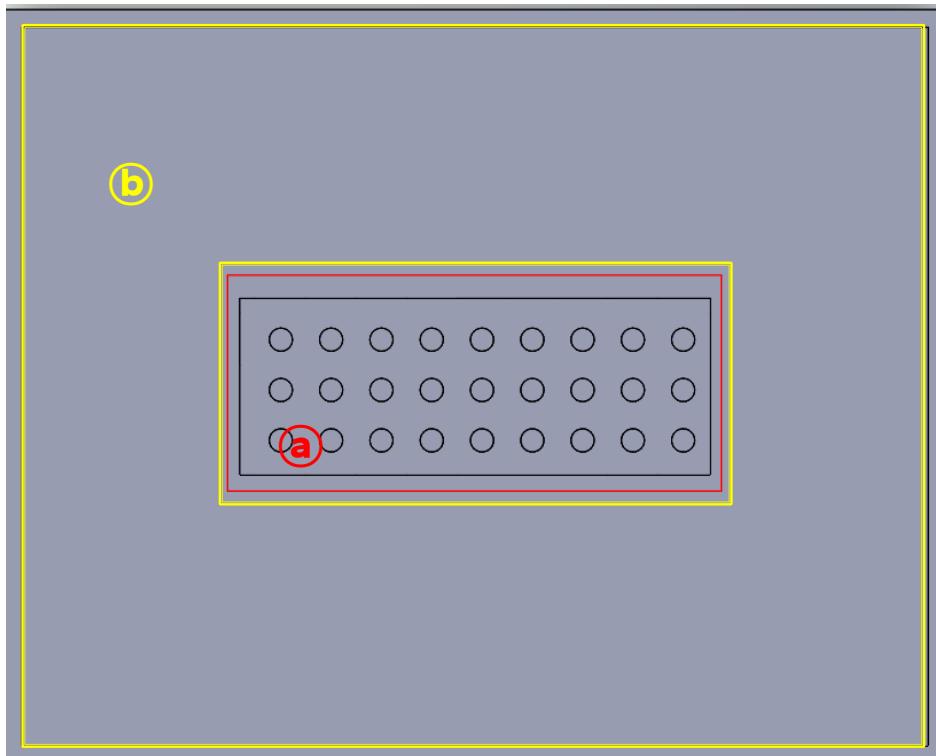
Maximum amount to be added is 900g and up to the Max line. It is recommended to add up to the Standard level (10mm) for general output and the Max level for the large output. Resin may splash depending on the shape of output in the up and down movements of motor.

### Notes

If the output is in a Shell structure, the amount of resin to add should be at the Shell level. If resin is added over the Shell level, the output may be filled with resin inside.

DP110 generated the output with the up and down movements (5mm) of motor. If resin is filled more than the Standard level, the shell structure may be formed outside the resin and the output may be filled with resin inside.

## VAT Check



There may be mark resembling ② on the surface of VAT silicon. It is known as a cloud which is a spill on the silicon surface due to heat in the process of output. If there is excessive cloud, quality of output may be undesirable or the output may not even be generated.

### How to generate output in case of Cloud

- ① In case of low output quality due to cloud, increase the exposure time 1 or 2 seconds for normal output quality
- ② Place the output on “②” area. (Generate output as “①” and increase the exposure time a little more if there excessive clouding continues. If increasing the exposure time does not improve the output quality.)
- ③ If applying both ① and ② do not improve the clouding on the entire VAT coating surface, it is recommended to install a new VAT.

# DLP Engine Maintenance

## 1. LED Error Messages

Message	on/ stand-by (green/yellow)	temp. LED (red)	Lamp-LED (red)
Stand-by (input power cord)	yellow	<input type="radio"/>	<input type="radio"/>
Power on (pre-heating)	blinking green	<input type="radio"/>	<input type="radio"/>
Lamp lighting	green	<input type="radio"/>	<input type="radio"/>
Power off (cooling)	blinking green	<input type="radio"/>	<input type="radio"/>
Malfunction (over-heated)	blinking yellow	<input checked="" type="radio"/>	<input type="radio"/>
Malfunction (fan not working)	blinking yellow	blinking	<input type="radio"/>
Malfunction (lamp not working)	blinking yellow	<input type="radio"/>	<input checked="" type="radio"/>

-> lamp on

-> lamp off

## 2. Maintenance

Cleaning the dust and rubbish off the projector will help use the projector without any malfunctions.

**Warning:**

1. Turn the projector off and unplug at least 30 minutes prior to cleaning the projector. It may cause a serious burn if not.
2. Use a damp cloth. Be careful not to have any water seep into the ventilation outlet.
3. If any water has penetrated into the projector while cleaning, leave it in well ventilated area before connecting the power supply.
4. If a large amount water penetrated into the projector while cleaning, please inquire for repair at the service center.

**To clean the lens**

1. Lens cleaning agent can be purchased from a lens store. Clean the lens as the following instructions.
2. Wet a clean and soft cloth with a small amount of lens leaning agent. (Do not apply the lens cleaning agent directly on the lens.)
3. Clean the lens in light circular motion.

**Notes:**

*Do no use any polishing agent or solvent.*

*Using detergent on the project case may cause discoloring or color fading.*

**To clean the case**

1. Please clean the projector case as the following instructions.
2. Clean any dust with a clean damp cloth.
3. Wet a cloth with warm water with soft detergent added in it such as dishwashing liquid to wipe the case with.
4. Remove any detergent on the cloth and wipe the projector again.

**Notes:**

*Do not use polishing agent or detergent containing alcohol since it may cause discoloring or color fading.*



## Issues with lamp

**Problem: Project lamp does not turn off.**

1. Check if the power cable is properly connected.
2. Try other device on the power socket and test if the socket is alive.
3. Restart the projector precisely according to instruction and check if the power LED is blue.
4. If the lamp was recently installed, reinstall the lamp.
5. Replace the lamp module.
6. Installed the lamp that has been used in the projector and call for repair at the service center.

**Problem: Lamp is turned off.**

1. Power surge may cause the lamp to be turned off. Reconnect the power cord. Push the power button after the power LED comes on.
2. Replace the lamp module.
3. Installed the lamp that has been used in the projector and call for repair at the service center.

## Image issues

**Problems: There is no image on the screen.**

1. Check the settings on your laptop or desktop PC.
2. Turn every devices off and turn them back on according to proper instructions.

**Problem: Image is not clear.**

1. Adjust the focus on the projector.
2. Push the Auto button on the remote control.
3. Check the distance between the projector and screen.
4. Check if the projector lens is clean.

**Problem: Image looks wider on top or bottom (distorted image in a shape of trapezoid)**

1. Place the projector to be perpendicular with the screen.
2. Solve the problem by pressing the Keystone button on the remote control or the projector.

# DLP Engine Lamp Replacement

Lamp needs to be replace after its lifetime has expired. Use only authorized parts.

***Important information:***

- a. Projecting lamp used in the product contains a small amount of mercury.
- b. Do not discard with regular waste.
- c. Discard accordingly to regulations in your area.

***Warning:***

Wait at least 30 minutes with the power off the projector and unplugged prior to replacing the lamp. It may cause a serious burn if not.

***Caution:***

In rare cases, the lamp may be shattered while in normal use into small pieces and sprayed out from the ventilation outlet on the back.

Do not breath in the glass pieces or touch. You may get hurt.

Do not face the ventilation outlet. You may get hurt from broken glasses or gas.

Make sure there is nobody under the projector when replacing the lamp on the ceiling mounted projector. Broken glasses may fall on somebody in case the lamp has shattered.

***In case the lamp has shattered***

As the lamp is shatter, broken glass pieces or gas may be radiating within the projector or sprayed out through the ventilating outlet. The gas contains harmful mercury.

Open doors and windows to ventilate.

If you breathed in gas or broken glass pieces are in your eyes, contact a medical doctor immediately.



## To replace the lamp

The projector automatically detects the lifetime of lamp. There will be a warning message if the lamp is expiring shortly.



Lamp warning

Lamp is expiring

If you see this message, contact the place of purchase or nearby service center and replace the lamp as soon as possible. Wait and cool the lamp at least 30 minutes prior to replacing it.



**Warning:** Please be careful when opening the lamp access panel for ceiling mounted projector. It is recommended to wear safety gloves to replace the lamp on the ceiling mounted projector. "Be careful not to have loosened parts fall on you from the projector."

**Warning:** The lamp may be very hot. Please wait and cool the lamp prior to replacing it.

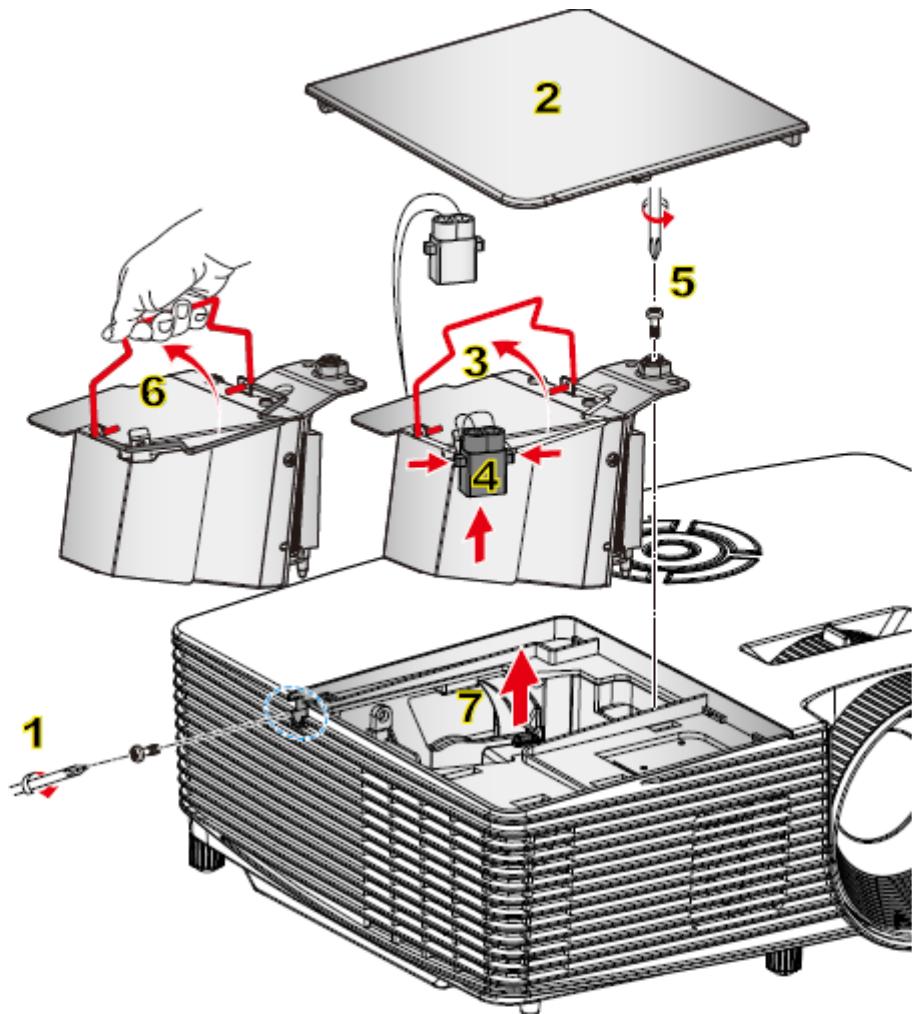
**Warning:** To reduce the danger of physical injury, do not drop the lamp module or touch the lamp bulb. Dropped and broken bulb may cause physical injuries.



\*Screw on the lamp cover and the lamp cannot be removed.

\*If the lamp cover is not mounted back on the projector, the projector will not be turned on.

\*Do not touch the glass part of the lamp with your hand. Oiliness on your hand may cause the lamp to shatter. If you have touched it with your hand, wipe the lamp module with a dry cloth.

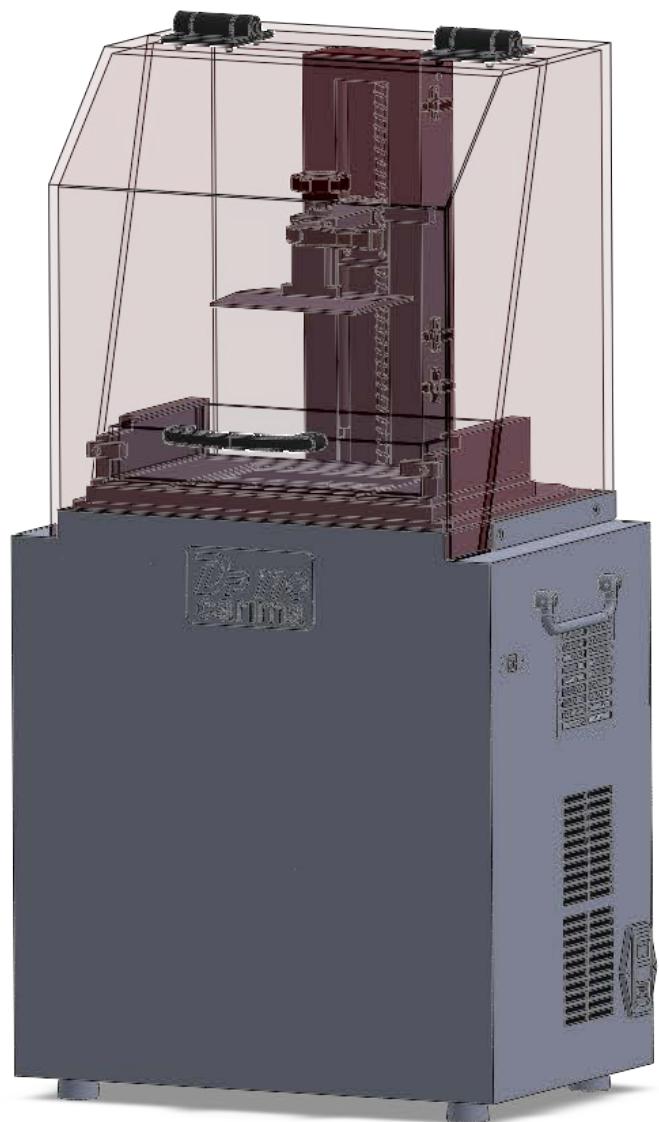


#### Procedure to replace the lamp:

1. Turn the power off the projector by pressing the "Turn On" button.
2. Cool the projector at least for 30 minutes.
3. Unplugged the power cord.
4. Remove one screw from the cover. (1)
5. Remove the cover by pushing upward. (2)
6. Push the lamp handle upward. (3)
7. Push the lamp cord upward to separate after pushing both sides. (4)
8. Remove one screw from the lamp module. (5)
9. Push the lamp handle upward 6 and carefully remove the lamp module. (7)  
Remount the lamp module in reverse order.
10. Turn the projector on and reset the lamp timer.

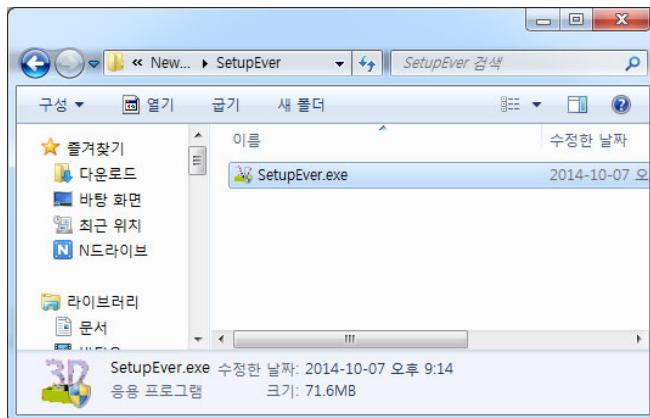
**To reset the lamp:** (i) Press "menu" -> (ii) Select "option" ->  
(iii) Select "lamp setting" -> (iv) Select "lamp reset" ->  
(v) Select "yes".

# *Control Program Manual*



## Chapter 1. DP110 Control Program Installation

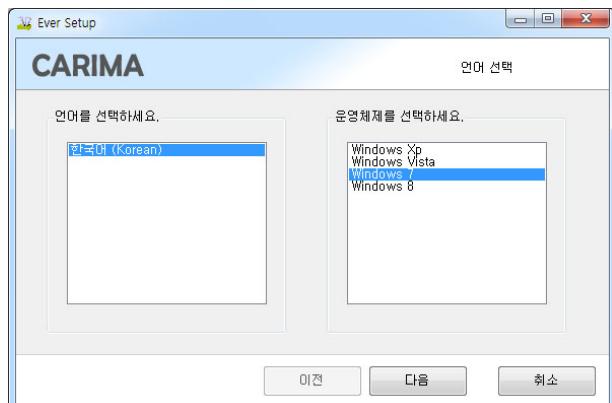
1. Setup DP110 execute installation file.



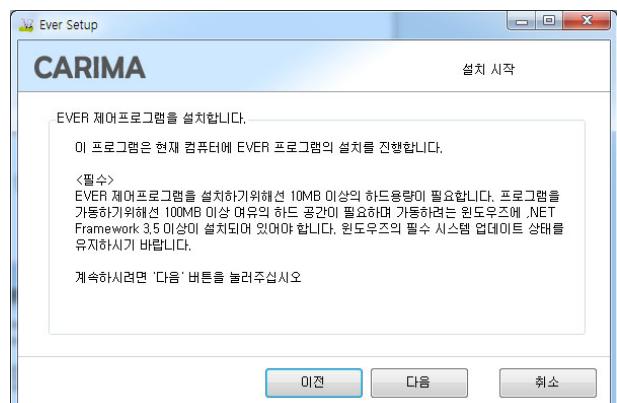
Execute Setup DP110 file

- 2.. The content of first display after executing the installation program is about selecting language and OS. Select the one suitable for PC and move to the next step.

3. Read before installing. After verifying the hard disc capacity required and system status and move to the next step.



Select the language and Operating system

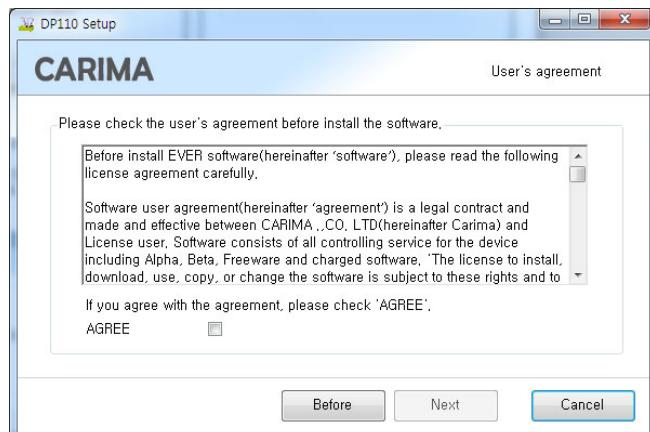


Notice to install the program

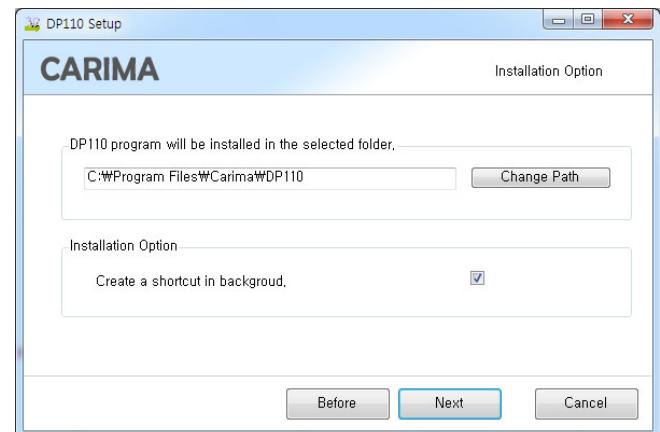
### ※ System Compatibility

CPU	1.5Ghz or more
RAM	2Gb or more
HDD	100Mb or more
Windows	Windows XP or higher version (optimized for the Windows 7) Microsoft .NET Framework 3.5 or higher version has to be installed.

4. Read Terms and Conditions. Check Agree and move to the next step.
5. Determines a path in the hard disc to be installed. Move to the next step after setup.



Check terms and conditions

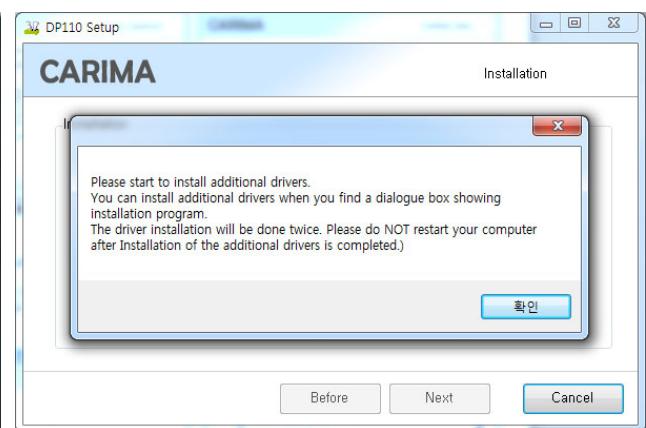


Select installation path

6. Starts installation
7. Additional driver message appears during the installation. A driver installation display appears if selected. Installation of 2 drivers are in progress.



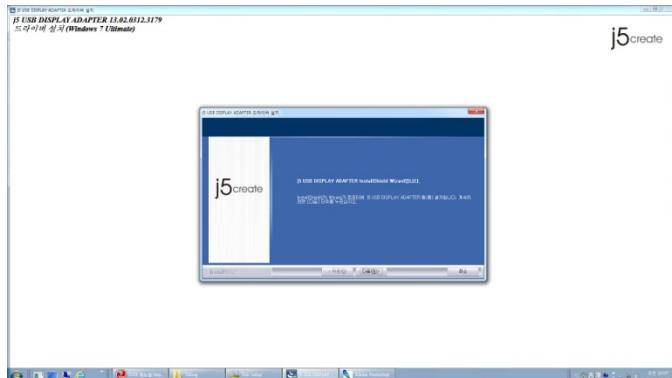
Installing



Additional driver installation message

8. Select the next button if a display for the first driver appears.

9. Check terms and conditions and check 'Agree to the terms and conditions for license' and select the next button.



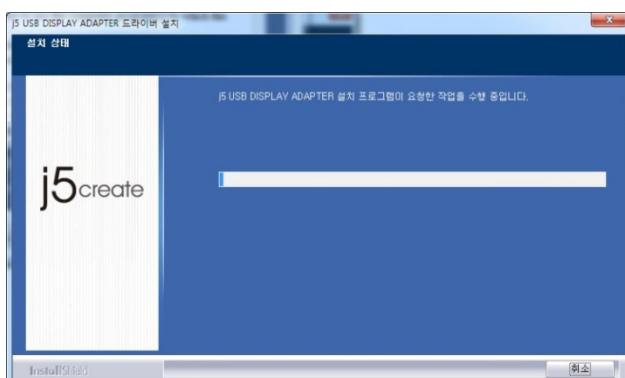
First driver installation screen



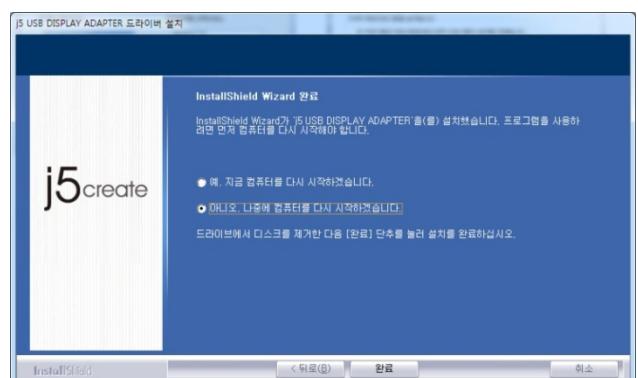
Check license

10. Installation in progress. Installation will complete in a moment.

11. It asks you whether to re-boot after installation. Must select 'No' and select the complete button.

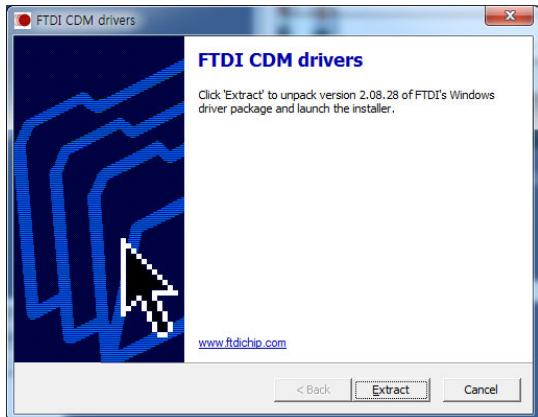


Installation in progress



Select 'No' at the last step

12. Second driver installation screen appears. Select 'Extract' button.
- 13.. Select the next button when the second installation screen appears.



Second driver installation screen

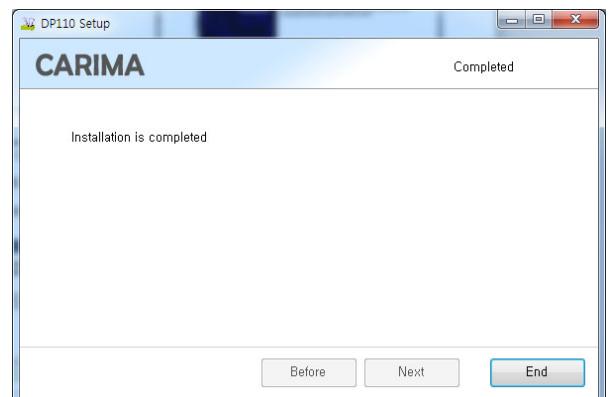


Start installing

14. Select the finish button after completed to finish the driver installation.
15. DP110 control program installation is complete when the installation for 2 drivers are finished.



Second driver installation complete

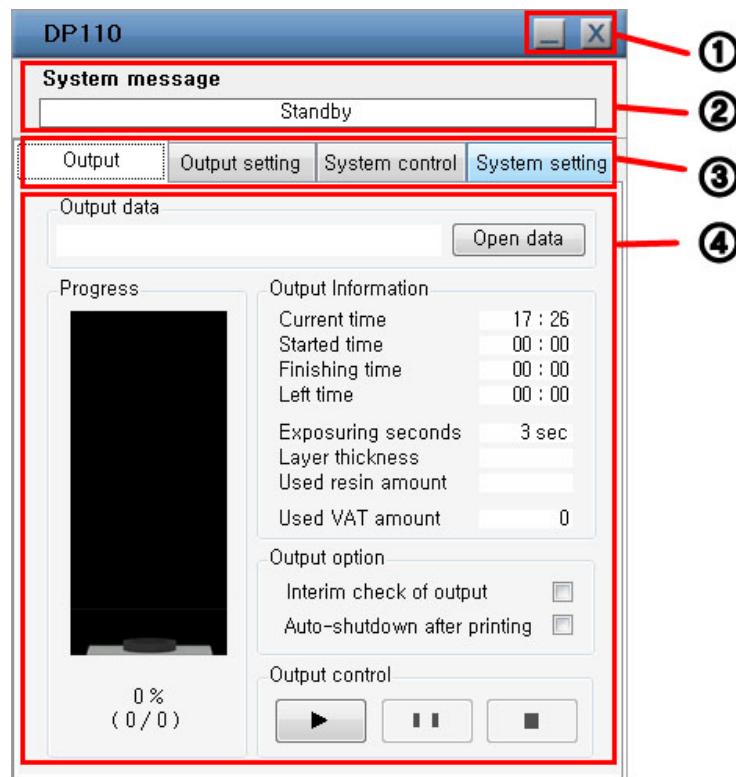


DP110 Control program installation complete

16. Please reboot when all installations are complete.

## Chapter 2. DP110 Display Configuration

This is the main screen.



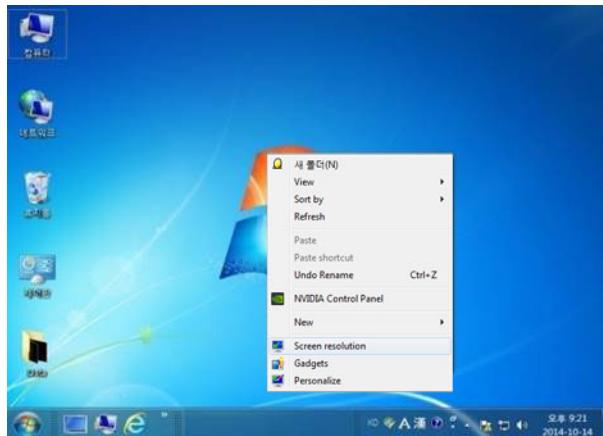
Function	Descriptions
① Hide and termination	Hides and controls DP110 control program
② System message	Displays the status of DP110 in messages
③ Menu tap	Move to the setting screen of output and other settings
④ Control screen	Displays each setting screen and functions

## Chapter 3. Initial Setting

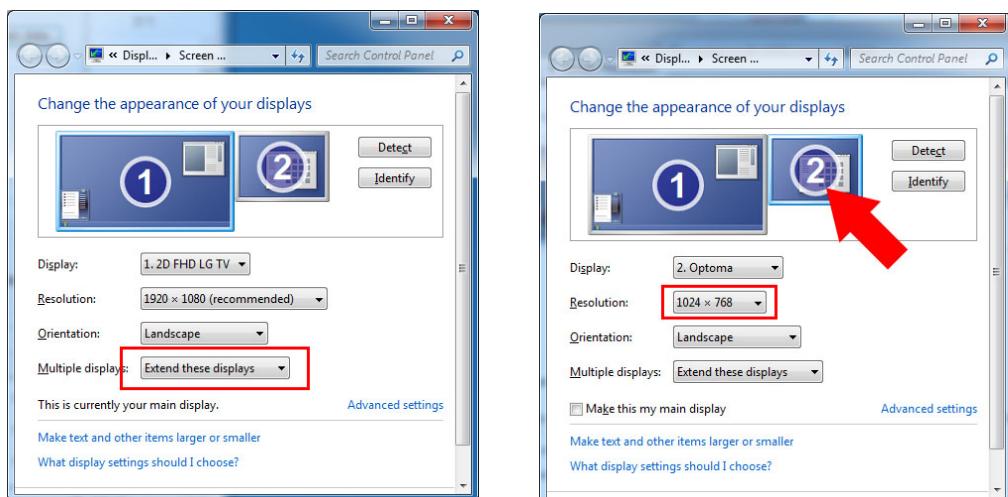
Settings for the initial equipment shall proceed after installing DP110 program. These settings are done only once at the beginning (Resetting may be necessary when the status of equipment is changed).

### 1. Optical Engine Setting

In order for the control program to operate on Windows, there shall be no connection problems between Windows and optical engine.



Right click the mouse to enter the resolution menu screen in the Windows desktop screen.



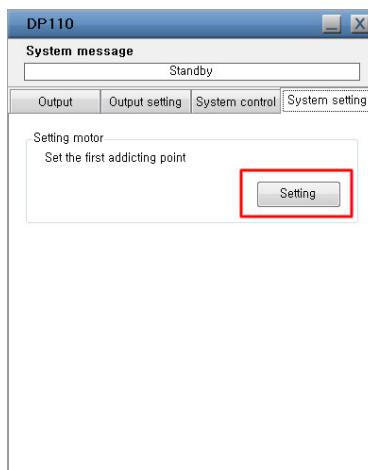
Select the multiple display item as 'Extend these displays' in the screen resolution

After selecting number 2 monitor, resolution item must be set to '1024 x 768'

## 2. ZERO reference point (the first addictive point) Setting

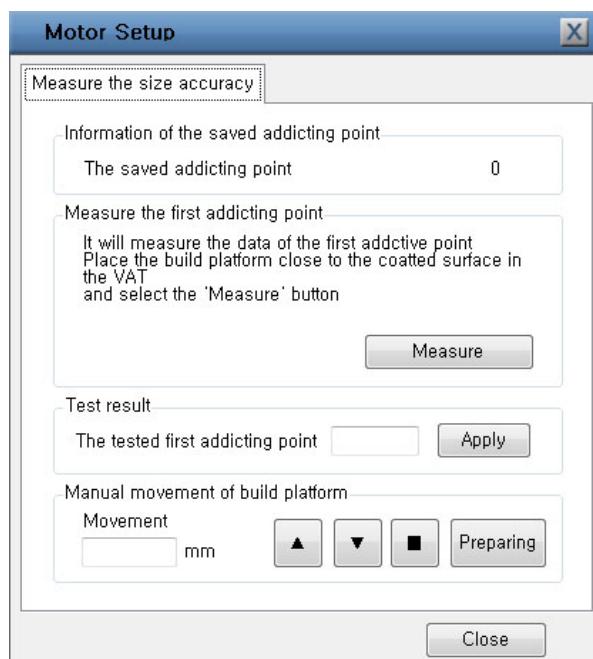
0 reference point setting is a setting to find a location that the output plate contacts VAT surface precisely when start generating outputs. 0 reference point setting must be reset to a new VAT whenever VAT is replaced.

- 1) If you select 'System Settings' on the top menu, it shows selection of motor and output precision. Select 'Settings' button in the motor setup.
- 2) Motor setup screen appears. Select '0 reference point Setting' tap or 'Settings' button in the 0 reference point setting.

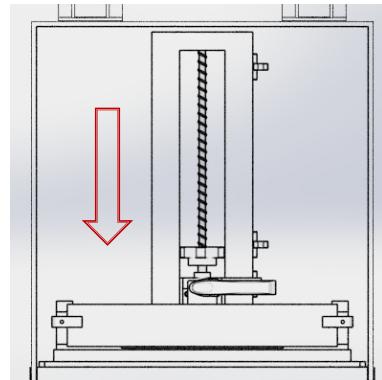


After selecting 'System Settings' tap, select 'Setting' button in the motor setup

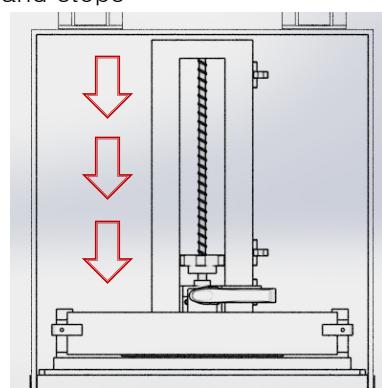
- 3) Shows zero reference point setting screen



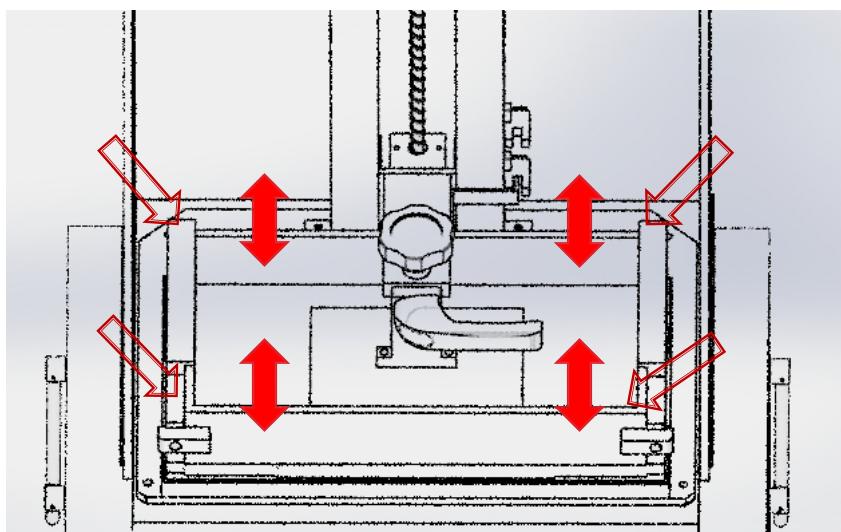
4) How to set 0 reference point



① Select 'Preparing' button in manual movement of build platform . Move the motor to the bottom. Motor moves to the lowest bottom and stops automatically.



② Enter the amount of movement to 0.1mm and by repeatedly selecting '▼' button, contact the output board to VAT.

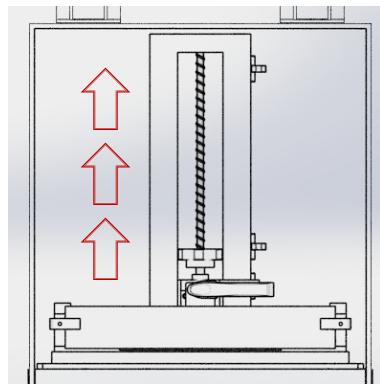


③ Shake the corner of VAT by hands. Lower the output board until you cannot feel the shaking of 4 corners. It is the 0 reference point when there is no more shakings in VAT.

Measure the first addicting point

It will measure the data of the first additive point.  
Place the build platform close to the coated surface in  
the VAT  
and select the 'Measure' button

Measure



④ After adjusting the output board to the 0 reference point, select 'Measure' button from the 0 reference point data measurement. It checks the position of 0 reference point while slowly moving the output board to the top.

Test result

The tested first addicting point 1.9

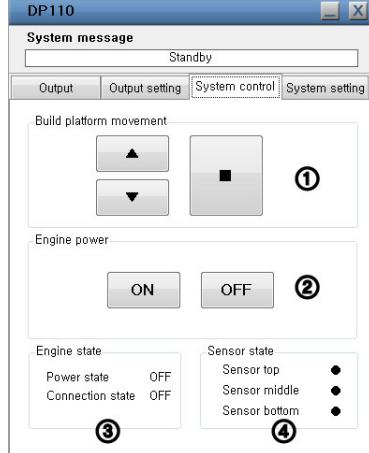
Apply

⑤ When motor movement is complete, the value of 0 reference point verified is displayed. Select 'Apply' button, the output board moves to the middle and completes the setting of 0 reference point.

## Chapter 4. System Control

It is a manual control menu for equipment. It is a function to turn on the optical engine before generating output and to check the operation of system.

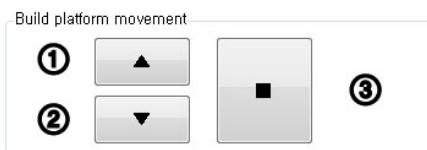
It shows system control menu if 'System control' tap on the top of DP110 control program is selected



Function	Description
① Output board move control	Button to move the output board manually
② Optical engine power source control	Button to turn on/off optical engine. It's a required function before generating output
③ Status of optical engine	It indicates power on/off of optical engine and connection status with the control program
④ Sensor status	It indicates status of senor that controls the output board movements.

### 1. Moving the output tray

Moves the output board manually. Transports the top to the bottom or stops the output board while moving.



Function	Description
① ▲	Moves the output board to the top
② ▼	Moves the output board to the bottom
③ ■	Stops the output board while moving

## 2. Power on of the Optical engine



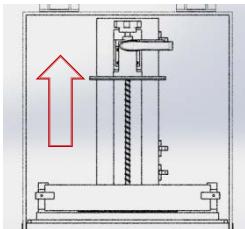
- ① Select 'ON' button in engine power
- ② Power of optical engine turns on moments later

## 3. Power off of the Optical engine



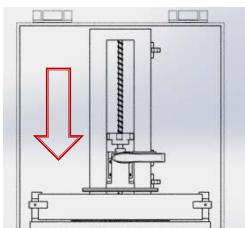
When turning off the power of optical engine, you can select 'OFF' button unlike the process of turning on power in sequence.

## 4. Checking the sensor



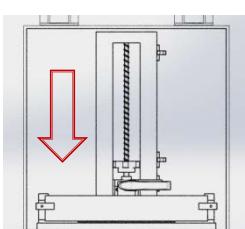
Sensor state	
Sensor top	<input type="radio"/>
Sensor middle	<input checked="" type="radio"/>
Sensor bottom	<input checked="" type="radio"/>

When the output board is moving to the top, the sensor at the top detects and stops the movement of output board automatically



Sensor state	
Sensor top	<input checked="" type="radio"/>
Sensor middle	<input type="radio"/>
Sensor bottom	<input checked="" type="radio"/>

When the output board is moving to the bottom, a stop limit sensor detects it and moves it to the top after stopping the move automatically.

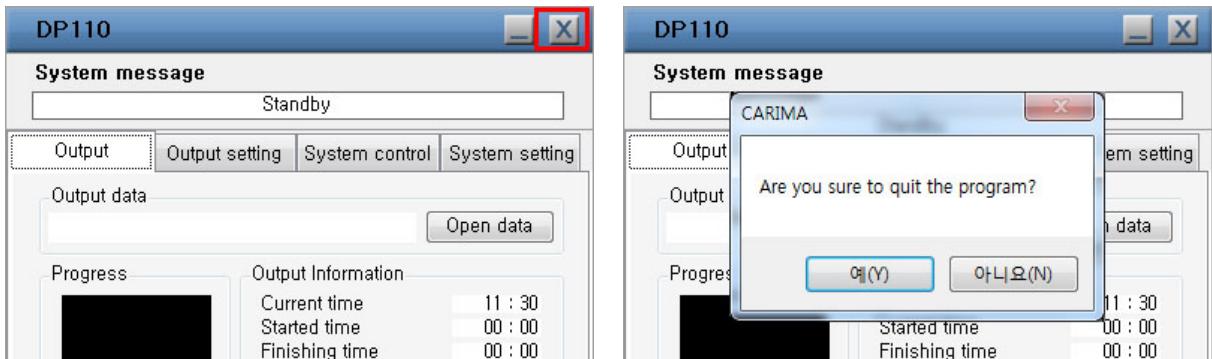


Sensor state	
Sensor top	<input checked="" type="radio"/>
Sensor middle	<input checked="" type="radio"/>
Sensor bottom	<input type="radio"/>

When generating output, the output board moves to the bottom and when it is at a point of generating output, sensor detects and starts the generation.

## 5. Completion of the Control Program

It is not possible to stop the generation while program is shutting down.  
Please finish the generation before termination.

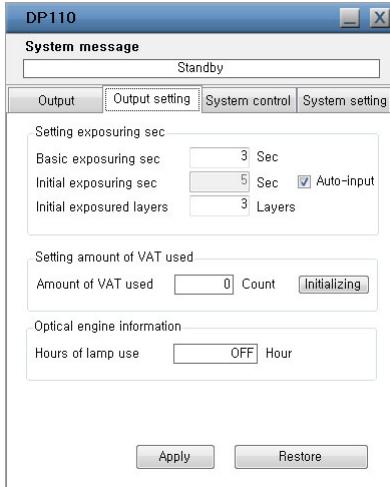


① Select 'X' icon on the top right of program

② A message to confirm the termination appears and the program terminates if 'Yes' button is selected. The engine power turns off automatically if optical engine was on.

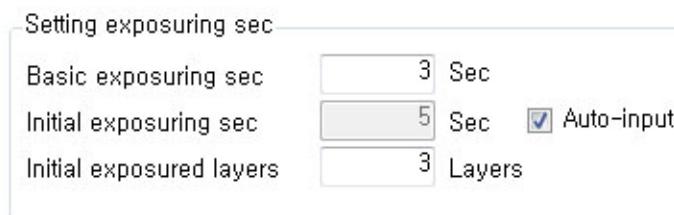
## Chapter 5. Output Setting

When generating the output, you can check the exposure time setting and VAT usage information. Setting screen appears if select 'Output setting' tap on the top of control program.



### 1. Exposure time setting

Exposure time means the time that optical engine shoots an output image when generating a layer during the generations. You must enter a precise time that fits the Resin being used since too much exposure time results in over-hardening, and too little exposure time results in under-hardening.



Function	Description
Basic exposure time	It is a basic exposure time that the output is being made. Must enter a precise time that meets the resin.
Initial exposure time	In order to make it stick better to the initial output board, it must expose to more light than for the basic exposure time. If 'Automatic input' is checked, the value automatically enters 2 seconds more than the basic exposure time .
Initial exposure layer	Enter the number of layers to apply to the initial exposure time. Average is 3~ 5 layers.

After changing the settings information, select the apply button on the bottom to apply the changed information.

## 2. VAT Usage setting

It displays the usage of VAT up until now.

VAT is a consumable, and therefore it must be replaced when damaged. You must initialize the existing usage when replacing so that you can show the new usage of VAT.

Setting amount of VAT used

Amount of VAT used	<input type="text" value="0"/> Count	<input type="button" value="Initializing"/>
--------------------	--------------------------------------	---------------------------------------------

Select 'Initializing' button on the right when replacing VAT (refer to page 7 for how to replace VAT and for manual). A message to confirm the initializing appears, click 'Yes' button to initialize the VAT usage to "0".



## 3. Optical Engine Information

You can verify the usage hours of optical engine lamp. Life of lamp is 3000 hours and the brightness may be low if used for more than its life. You can generate the output if you replace lamp when it went used more than 3000 hours.

If the lamp for the optical engine is not on, hours of lamp use is displayed 'OFF'.

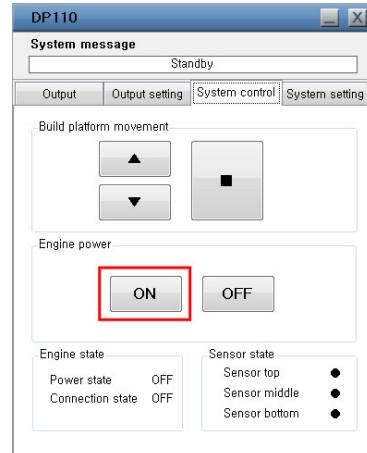
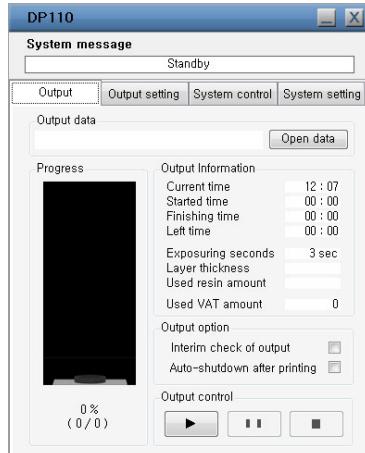
Optical engine information

Hours of lamp use	<input type="text" value="30"/> Hour
-------------------	--------------------------------------

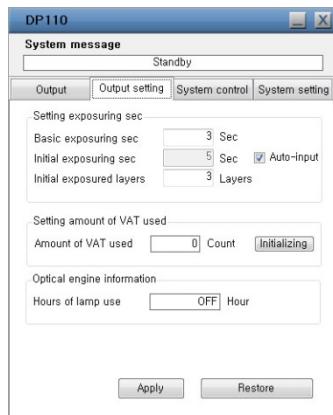
# Chapter 6. Output

## 1. Being ready

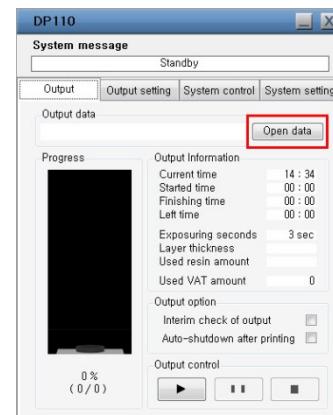
It is a process of preparing the output. Please proceed as described at below.



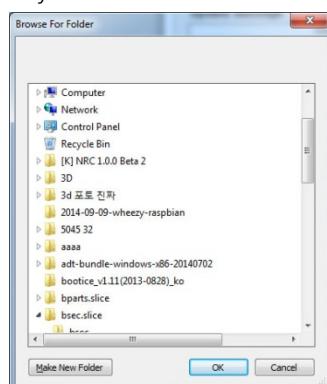
① Executes DP110 control program



② Turn on the engine

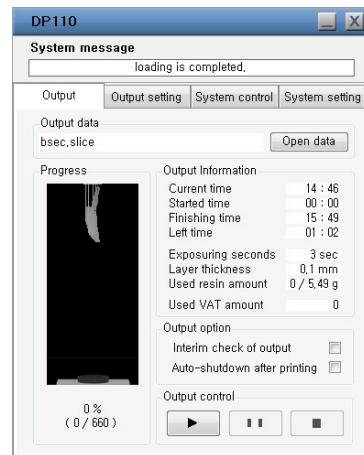
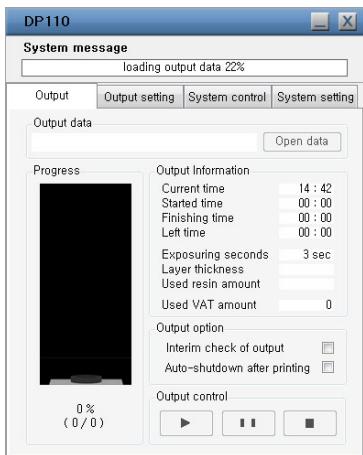


③ Check if the exposure time is entered precisely.



④ Select opening data.

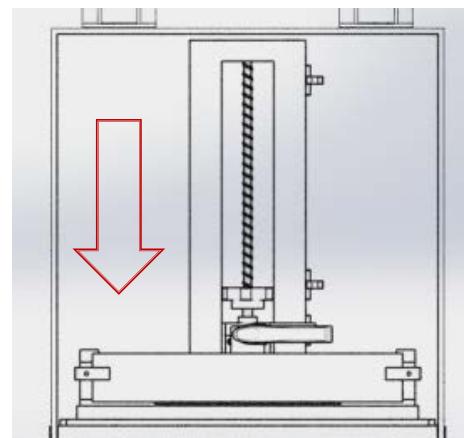
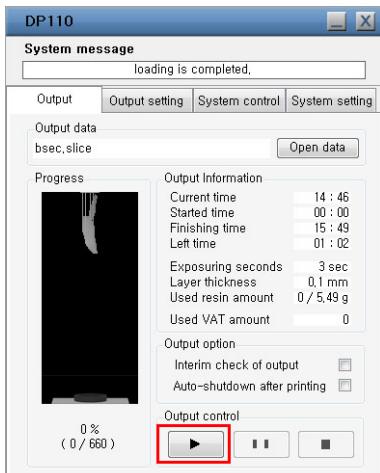
⑤ Select confirm button after selecting the folder that output data is stored



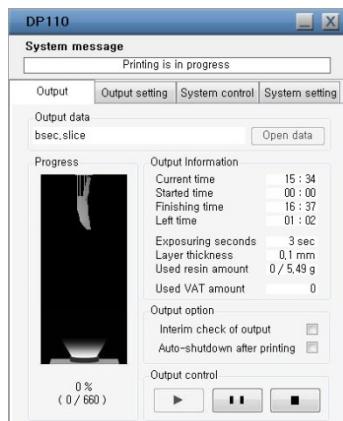
⑥ Loading of the output data is proceeding. It may affect the other programs due to high CPU usage during data loading. CPU usage goes down when data loading is completed.

## 2. Start

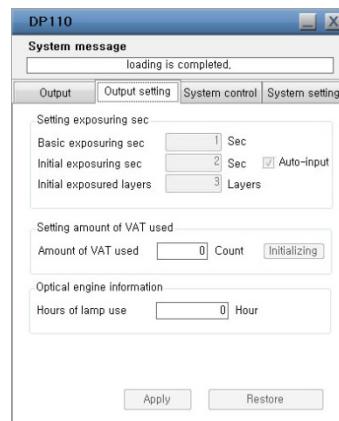
It is a process of generating output. Please proceed as described below.



① Select '▶' button in output



② Output board moves to the bottom

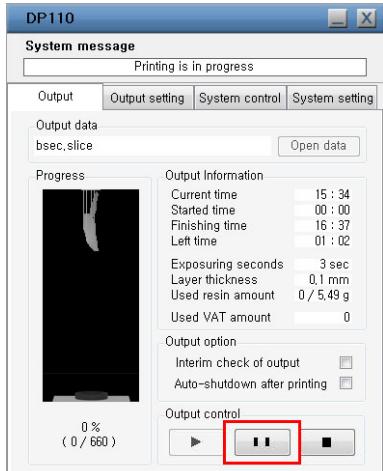


③ After the output board moved to the surface of VAT accurately, it begins the generation.

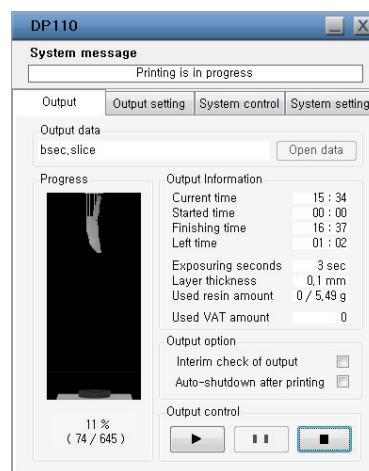
④ It is impossible to set the generation and system control while generating.

### 3. Temporary pause

It can be pause temporarily during the generation if you need to change the settings.

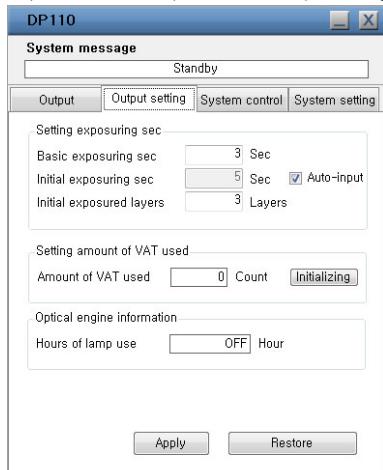


① Select temporary pause (⏸) button while generating output

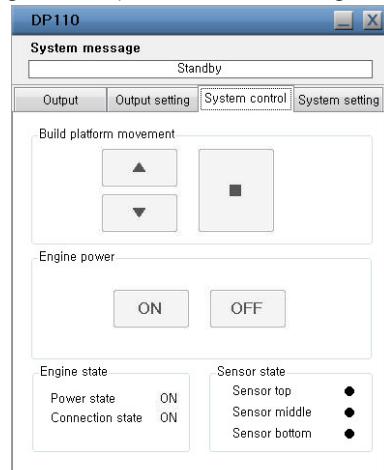


② It does not pause immediately even if you have selected the temporary pause.

Output process undergoes a repeat procedure of exposure → raise output board →lower output board →exposure. The location of stopping temporarily is where the output board is lowered and before the exposure. Operations will continue even if you selects the temporary pause button, and it will pause temporarily after completing the output board lowering stage.



③ You can change the output setting in the temporary pause stage



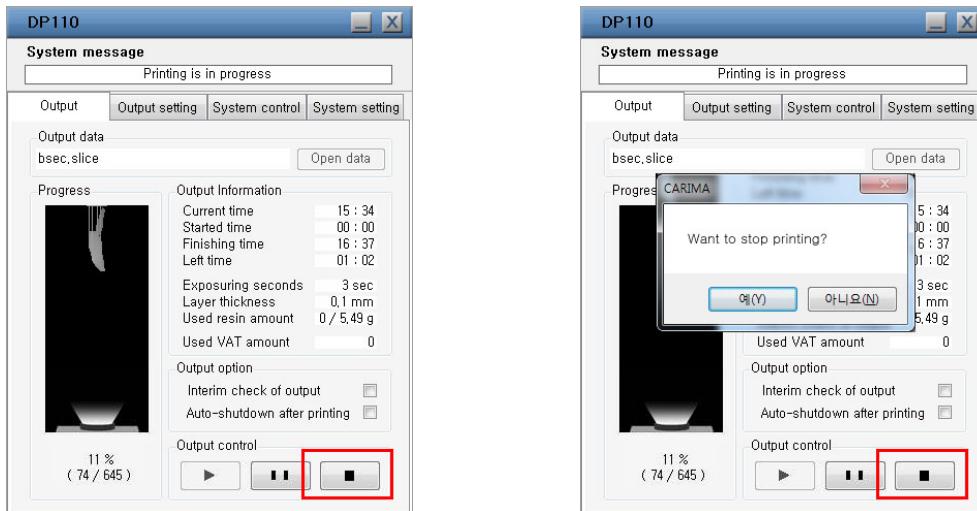
④ It is impossible to control, change, set system in the temporary pause stage.



⑤ Even if the temporary pause button has been selected, you can select '▶' button before it stops temporarily, then it cancels the temporary pause and continue on generating the output.

## 4. Stop

It stops the generation while generating output.



① Select stop (■) button while generating output ② A message to confirm the stop appears, select 'Yes' button to stop the generation.

\* If stop button is selected during exposure, it stop the generation after completing the exposure process it was undergoing.

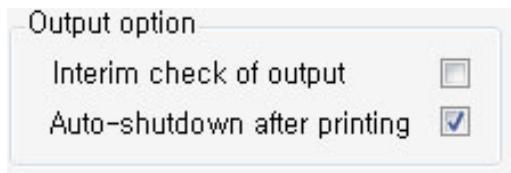
## 5. Completion

The output board automatically moves to the top when the generation is completed. All actions will stop after this and the generation is completed.

## Chapter 7. Output Options

### 1. Automatic stop after the completion of output

If 'Auto-shutdown after printing' is selected, the power for both optical engine and PC automatically shut down when generating the output is complete. Shutting down by selecting the stop button will not automatically shut down.

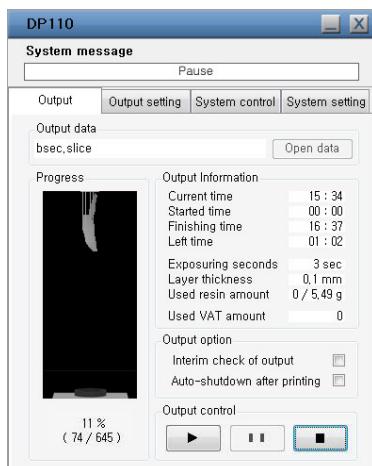


### 2. Interlocutory preview of output

Parts of output cannot verify visually since it is contained in the Resin. You can check the output if you check 'Interim check of output'.



Output board automatically goes up after exposure if you check 'Interim check of output'. It waits until the output board stops. It checks the status of output when the output board stops. Control program temporarily pauses.

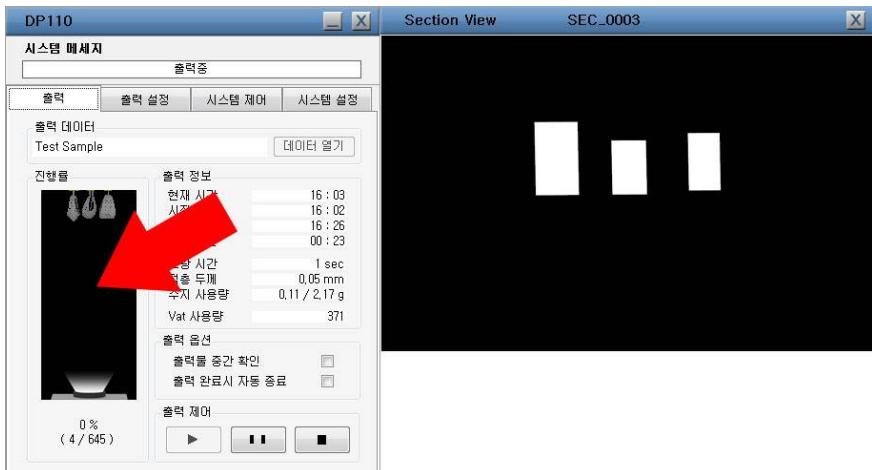


If '▶' button is selected, the output board comes down again and reverts to the position to the previous position and restarts the generations.

'Interim check of output' is automatically cancelled. If generation of the output of size more than 140mm is underway, you cannot use this function.

### 3. Viewing the cross section

You can check the image of output generated by the optical engine while being generated.

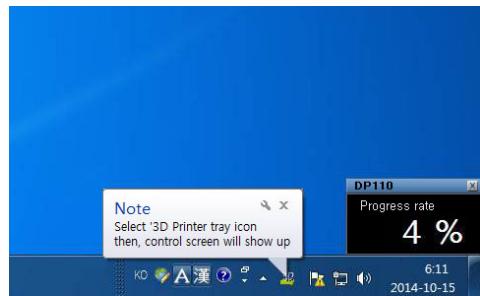
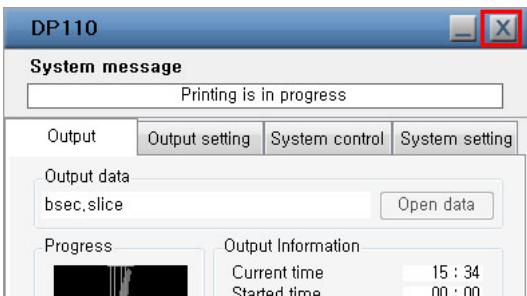


Select the image output in the progress rate with the mouse. It appears on the right of program in a single image window, and show a cross section image being generated. The cross section image indicates the next layer image whenever exposed.

If selects the generated image in the progress rate with the mouse again or select the 'X' icon on the top right of the single image window, the single layer window closes.

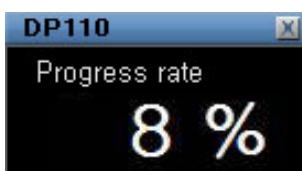
### 4. Hiding the program

You can hide the control program while generating.



① Click 'X' icon on the top right of the program while generating. It disappears from program screen, but the generation continues.

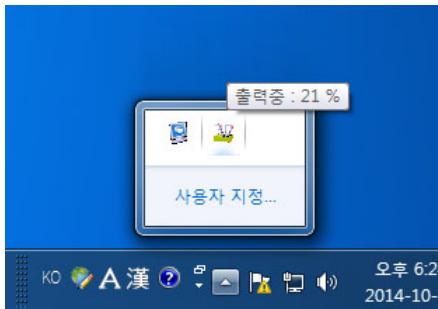
② Tray icon is added to the bottom right of screen and the progress rate window appears.



③ Click and drag the progress rate window with the mouse and can move to the position you desire. The window closes if you click the 'X' icon on the top right of the progress rate window.

④ If you double-click the progress rate window with the mouse, the main program screen will appear again.

## 5. Control of tray icon



- ① Put the mouse cursor on the tray icon to see the system state and the progress.
- ② Select the tray icon to see the main program screen.



- ③ Put the mouse cursor on the tray icon and right-click to see the menu.
- ④ Select the control mode opening to see the main program screen.
- ⑤ Turn on the check in the simple information screen, the progress rate window appears, and the progress rate window disappears if turned off.

※ There is no tray icon while the main program screen is displayed. Tray icon is only created when hiding the program.

# Q & A

**Q. Output quality is poor or is completed in unfinished condition.**

A. First, check if Support and Slicing are correctly done, and check the 0 reference point setting. If normal, check “VAT check911)” and adjust the exposure time or placement of the output if coating is defective. If the quality is still poor, replace VAT with a new one to generate the output.

**Q. When opening and closing the cover, it is either too tight or too loose.**

A. This happens during the course of time when the adjusting screw slightly moves while opening and closing. Please adjust the adjusting screw accordingly with the wrench provided.

**Q. Communication connection fails when the program is executed.**



A. ① Check if the power switch of DP110 is ON.  
② Check if USB cable is there between DP110 and PC.  
③ Even if there is no USB cable connection problem, disassemble cable from PC and reassemble.

## Q. Output tray moves arbitrarily while generating the output.

A. There is a problem is setting the speed of motor.

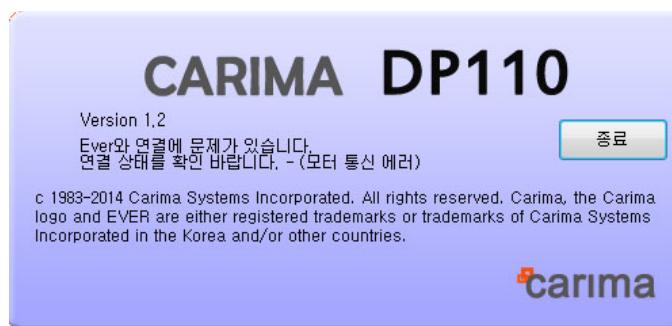
Please re-set the speed of motor with reference to Chapter3-2.

## Q. Output is not being formed and there is a hardened sample stuck to the surface of VAT.

A.

1. Check if it is applicable to the equipment user manual “VAT check (11)”.
2. If it is not a VAT problem, it is caused by start generating before the output board reaches the surface of VAT due to the failure in setting the 0 reference point setting. Please re-set the 0 reference point with reference to Chapter 3-3.

## Q. Communication connection fails when the program is executed.



A.

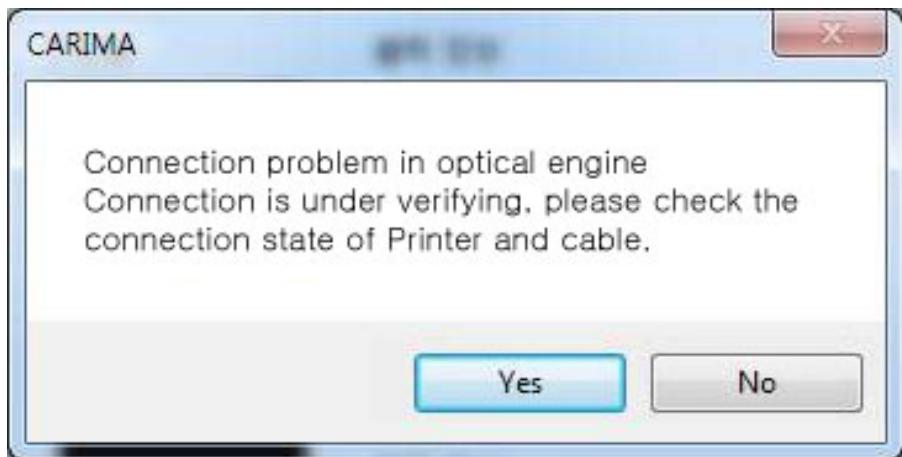
- ① Check if the power switch of DP110 is ON.
- ② Check if USB cable is there between DP110 and PC.
- ③ Even if there is no USB cable connection problem, disassemble cable from PC and reassemble.

## Q. Output is not being formed and there is a hardened sample stuck to the surface of VAT.

A.

It is caused by start generating before the output board reaches the surface of VAT due to the failure in setting the 0 reference point setting. Please re-set the 0 reference point with reference to Chapter 3-3.

Q. An error message appears and the output has been interrupted during generation.



A.

It is a USB cable connection problem between DP110 and PC during the generation. Be sure not to touch the USB cable while generating. Since it is difficult to generate, please terminate the job and re-generate.